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THE PROBLEM OF DEFINITION

By JOHN J. BIRCH, Pd. B. Schenectady High School, Schenectady, N. Y.

THERE IS NO PROBLEM more perplexing from the educator's standpoint than that of formulating definitions. The grade school teacher aims for comprehension; while the college professor seeks to get inclusiveness and precision. Webster's School Dictionary satisfies the former; while the Encyclopaedia Britannica, the latter. From the very nature of the mind, it becomes impossible to create definitions which will satisfy grade school pupils and college doctors at the same time. The more profound thought given any object, the more difficult becomes the problem of formulating adequate definitions. A child might define a cat as an animal, and that definition would be entirely satisfactory for one only of a few years of experience; but a college student, by this definition could not point out the difference between a cat and a cow or a lion. More specific facts must be told of the cat to fix it in his mind as such, for experience has included many animals which might fall under that general definition and yet not be a cat.

It is quite impossible to completely define trigonometry for the whole science would then become the definition. Primarily it is the solution of triangles; but that is only a part of the science. The underlying laws of sines, cosines, etc., leading to the solution of triangles are no less important, and as truly trigonometry as the solution themselves. These must be taken into account in an inclusive definition of that subject. Thus a complete definition becomes the whole science; and anything less than that remains incomplete.

But the completeness is practically worthless for general understandings; therefore, certain important parts, so to speak, must be separated and used to make up definitions. This is also difficult, due to an equality of importance or an inseparable relationship with the whole. To separate the important from the non-important elements of any subject is a task which is modified by adaptability. There are times when the practical aspect must be emphasized and there are times when the theoretical must be held in prominence. They are not interchangeable and in this way different aspects of the same subject are brought out.

The traditional conception is that a definition consists of giving genus and differentia. A dog is defined as a domesticated carnivorous animal of the *Canis* family, while a man is defined as a adult male of the human species. These imply some form of classification and in case this does not exist, it must be presupposed, and

thus a definition becomes based on an assumption. A definition giving such information, at most, only locates objects in a mental system without giving further information. Graphite is a form of carbon. . . so is a diamond, yet diamonds and coal differ in all respects, save that each is carbon. Although this type of definition in itself is of little value in explaining the nature of a thing, yet in practical thought it becomes prominent for the reason that it places objects in a class with others, where there is something in common. Then by class association one is able to obtain a more complete understanding. When one by experience has become familiar with the various properties by carbon, those of the diamond can be likened thereunto and thus create an idea of a diamond, at least physically and chemically. The chief use of this type of definition is to place objects in a general class. Thus by association one arrives at the more specific details.

The ideal conception of a definition is that it gives the essential nature of the thing. But this is rarely realized, due to the fact that to do so would make a definition too long, and embody too many details, which would make it laborious. To define a table by this method would require to mention its use, material of construction and style, which would obviously be more details than the average person would desire. To define it as an article of furniture tells only its class use, and nothing more specific.

Things in themselves have a law or nature which determines them. A table is used as a service for food, a flat surface to work or write on, and many other innumerable uses. This separates it from other articles of furniture such as a bed or a chair, yet it does not mention all the essential natures thereof; but it does bring out the determining nature. Various fundamental truths are inherent in the nature of the object and must find expression in the definition.

This might also be illustrated in the definition of a circle. "A circle is a plane figure, bounded by a continuously curved line, every point of which is equally distant from a point called the center," or "a circle is a portion of a plane bounded by a circumference." One represents truth as much as the other. The only ground for choice is the convenience of use, or the elegance of expression.

Again, things differ in the respect in which they are alike. In what we call the same color, there are indefinite varieties of shades. In general only a few classes

are recognized and shades are treated as a modification of one color, as when we speak of a bluish yellow or a brownish red. The reason for this is a feeling perhaps that the case in hand does not deserve to be made an independent class or there may be a limitation of language and the confusion arising from multiplying classes beyond necessity. Of this latter confusion we get some hint when confronted with the bewildering color terminology of trade.

Definition is a very complex matter. If we are not content to define by genus and differentia, we must ad-

mit that complete definition cannot be given. Hence our concepts vary all the way from constructive definitions to descriptions, and even to mere names which they may denote something, but which complete nothing. They exist in all degrees of completeness due to the reserve store of experiences to which they are related. Many of our definitions are in a state of growth. The grade school pupil will add to his definitions as he advances in understanding and contact with the realities of life. If there is a central point of light, there is also a large border of penumbral haze.

GEOGRAPHY IN THE HIGH SCHOOL

By THOMAS W. SPRINKLE Principal, Duke, N. C., Graded and High School

O ONE HAS YET given what I consider a satisfactory explanation for the absence of geography from the high school course of study. True, we find Physical Geography on the state lists, but how many schools really offer this subject? And as far as political and commercial geography is concerned—the real "jogerfy" of the grades—it comes to an untimely end, after a hurried study of 30 pages of North Carolina, during the hot part of May while the seventh grade is preparing for commencement exercises.

The other grammar grade subjects are continued in high school; the health books and physiologies are replaced by general science and biology; arithmetic is continued in high school until it gives way to higher mathematics; and history, as a rule, is offered from the fourth grade to the eleventh. If a child is unable to grasp the fundamentals of United States History after courses in the fifth, sixth and seventh grades, but must have another round in the eleventh, can you expect his mind to be mature enough to get a comprehensive knowledge of geography in two two-year courses all of which come before he has reached the age of 15?

Perhaps the study of geography is not as important as these other things, but personally, I think that the average business man of to-day would place a higher value on information concerning California's surface, soil and crops than on a knowledge of the date of that state's admittance to the union. And after all, history and geography are so closely related that one becomes confused when trying to differentiate between causes and effects.

Clark University has recently instituted a graduate school of geography which has become so popular that, during the past summer school session, geography constituted the chief department of instruction. President Atwood says that he has had a great many calls from first class institutions, some from departments in Wash-

ington, and some from business houses for well-trained men in this field. A big jump, is it not, from a seventh grade course to graduate work in a School of Geography?

In the English fitting-schools of the Harrow and Eton type, there is offered a sort of nondescript course which, for the lack of a better name, is called "General Knowledge." Geography, you may be sure, plays an important role in this course; Great Britain's position in world affairs requires that her subjects have a familiarity with world geography. It is true, the United States may never have the colonization problems that Great Britain is confronted with, yet if we are ever to take our place in world politics and world commerce, a thorough knowledge of world geography is essential. Why should the secondary schools be denied the opportunity of sharing in the diffusion of such knowledge?

THE SNOW HILL Parent-Teacher Association is very active. It is at present well organized to do work for the school the coming year. A committee has been appointed by the executive committee to work out the various school problems. A few of the committees follow: A committee to promote reading good literature and books; a committee to promote athletics; a committee to do interior decoration; a committee to beautify the school yard; a visiting committee; a finance committee; a program committee, and other committees will be appointed later.

At each meeting of the association a committee puts on a program that it has to promote. The second Tuesday night, for instance, in November the Athletic committee will take charge and have a good program. With each regular promoting program a "pep" committee gives entertainment to make the meeting interesting. The programs are usually interesting and short.—Lila Dwight Andrews, Corresponding Secretary.